

Stephen B. DeLong, Ph.D.

United States Geological Survey
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Education

Ph.D. University of Arizona, Tucson AZ, 2006, Geosciences

B.S. University of Minnesota Duluth, Duluth MN, 1997, *cum laude*, Major: Geology; Minor: Chemistry

Professional Summary

U.S. Geological Survey, Earthquake Science Center, Research Geologist, January 2013 – present

University of Arizona, Biosphere 2, Assistant Research Professor and Biosphere 2 Landscape Evolution Observatory lead scientist. <http://b2science.org/leo>, March 2010 – January 2013

University of Arizona, Department of Geosciences, Assistant Research Professor (Joint), March 2010 – January 2013

United States Geological Survey Mendenhall Postdoctoral Fellow, USGS Earthquake Science Center- Menlo Park, CA, October 2008 - August 2010. Supervisor: Carol Prentice

Arizona State University, School of Earth and Space Exploration, Postdoctoral Research Associate, Tempe, AZ, Aug 2007-October 2008. Supervisor: Kelin Whipple

Cornell College, Visiting Assistant Professor, Mount Vernon, IA, August 2006-May 2007. Teaching: Physical Geology, Climate Change, Geomorphology, Environmental Studies, GIS

Los Alamos National Laboratory, Research Assistant, 2005-2006: Member of Yucca Mountain Project Igneous Hazards Team, based in Tucson AZ

University of Arizona, Department of Geosciences Teaching/Research Assistant, Tucson, AZ, 2002-2005

U.S. Geological Survey, Southern California Areal Mapping Project, Geologist, Tucson, AZ, summer/fall 2002

Arizona Geological Survey, Geologist, Tucson, AZ, 2002-2005

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Publications

1. DeLong, S.B., Prentice, C.S., Hilley, G.E., Crosby, C.J., Yokelson, I.N., *in USGS internal review for submission to GSA Bulletin*. Using geomorphic markers, denudation, and river channel analysis to reveal spatial and temporal variation in the pace of mountain building along the Mendocino Coast, California
2. Passalacqua P., Belmont, P., Staley, D.M., Simley, J.D., Arrowsmith, J.R., Bode, C.A., Crosby, C.J., DeLong, S.B., Glenn, N.F., Kelly, S.A., Lague, D., Harish, S., Schaffrath, K., Tarboton, D.G., Wasklewicz, T., Wheaton, J.M., *submitted*, Analyzing high resolution topography for advancing the understanding of mass and energy transfer through landscapes: A review, *Earth Science Reviews*.
3. Pangle, L.A., DeLong, S.B., Abramson, N., Adams, J., Barron-Gafford, G., Breshears, D.D., Brooks, P., Chorover, J., Dietrich, W., Dontsova, K., Durcik, M., Espeleta, J., Ferre, T., Ferriere, T., Henderson, W.M., Hunt, E., Huxman, T., Millar, D., Murphy, B., Niu, G-Y., Pavao-Zuckerman, M., Pelletier, J.D., Rasmussen, C., Ruiz, J., Saleska, S., Schaap, M., Sibayan, M., Troch, P.A., Tuller, M., Van Haren, J., Zeng, X., 2014 *accepted pending minor revisions*. The Landscape Evolution Observatory: large-scale controllable infrastructures to study coupled Earth-surface processes. *Geomorphology*
4. Gevaert, A.I., Teuling, A.J., Uijenhoet, R., DeLong, S.B., Huxman, T.E., Pangle, L., Breshears, D.D., Chorover, J., Pelletier, J.D., Saleska, S., Zeng, X., Troch, P.A., 2014. Hillslope-scale experiment demonstrates the role of convergence during two-step saturation. *Hydrology and Earth System Sciences*. v. 18, p 3681-3692, doi:10.5194/hess-18-3681-2014.
5. DeLong, S.B., Johnson, J.P., and Whipple, K.X., 2014, Arroyo channel head evolution in a flash-flood-dominated discontinuous ephemeral stream system. *Geological Society of America Bulletin*, v. 126, no. 11-12, p. 1683-1701, doi:10.1130/B31064.1
6. Niu, G.-Y., Pasetto, D., Scudeler, C., Paniconi, C., Putti, M., Troch, P. A., DeLong, S. B., Dontsova, K., Pangle, L., Breshears, D. D., Chorover, J., Huxman, T. E., Pelletier, J., Saleska, S. R., and Zeng, X. 2014, Incipient subsurface heterogeneity and its effect on overland flow generation – insight from a modeling study of the first experiment at the Biosphere 2 Landscape Evolution Observatory, *Hydrol. Earth Syst. Sci.*, 18, p. 1873-1883, doi:10.5194/hess-18-1873-2014
7. Pelletier, J.D., DeLong, S.B. Orem, C.A., Becerra P., Compton K., Gressett K., Lyons-Baral J., McGuire L.A., Molaro J.L and Spinler, J. 2012. How do vegetation bands form? Insights from numerical modeling and field studies in southern Nevada, U.S.A. *Journal of Geophysical Research: Earth Surface*, v 117, no. F4, p. 2156-2202, doi:10.1029/2012JF002456.
8. DeLong, S.B., Prentice, C., Hilley, G.E., Ebert, Y.; 2012, Multitemporal ALSM change detection, sediment delivery, and process mapping at an active earthflow, *Earth Surface Processes and Landforms*, v. 37, no. 3, p. 262-272, doi: 10.1002/esp.2234
9. DeLong, S.B., Pelletier, J.D., Arnold, L.J. 2011, Late Holocene alluvial history of the Cuyama River, California, USA, *Geological Society of America Bulletin*, v. 123, no. 11-12, p. 2160-2176, doi:10.1130/B30312.1
10. DeLong, S. B., G. E. Hilley, M. J. Rymer, and C. Prentice, 2010, Fault zone structure from topography: Signatures of en echelon fault slip at Mustang Ridge on the San Andreas Fault, Monterey County, California, *Tectonics*, v. 29, no. 5, TC5003, doi:10.1029/2010TC002673

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11. Hilley, G.E., DeLong, S.B., Prentice, C., Blisniuk, K., Arrowsmith, J.R., 2010, Morphologic dating of fault scarps using airborne laser swath mapping (ALSM) data. *Geophys. Res. Lett.*, v. 37, no. 4, L04301, doi:10.1029/2009GL042044
12. Arnold, L.J., Roberts, R.G., Galbraith, R.F., DeLong, S.B., 2009, A revised equivalent dose estimation procedure for optical dating of young and modern age sediments. *Quaternary Geochronology*, v. 4, no. 4, p. 306-325, doi:10.1016/j.quageo.2009.02.017
13. Pelletier, J.D., DeLong, S.B., Cline, M.L., Harrington, C.D., Keating, G.N., 2008, Dispersion of channel-sediment contaminants in distributary fluvial systems: Application to fluvial tephra and radionuclide redistribution following a potential volcanic eruption at Yucca Mountain. *Geomorphology*, v. 94, no. 1-2, p. 226-247, doi:10.1016/j.geomorph.2007.05.014
14. DeLong, S.B., Pelletier, J.D., Arnold, L.J., 2008, Climate change triggered sedimentation and progressive tectonic uplift in a coupled piedmont-axial system: Cuyama Valley, California, U.S.A. *Earth Surface Processes and Landforms*, v. 33, no. 7, p. 1033-1046, doi:10.1002/esp.1600
15. DeLong, S.B., Minor, S.A., Arnold, L.J., 2007, Late Quaternary alluviation and offset along the eastern Big Pine fault, southern California. *Geomorphology* v. 90, no. 1-2, p. 1-10, doi:10.1016/j.geomorph.2007.01.018
16. DeLong, S.B., Pelletier, J.D. and Arnold, L., 2007, Bedrock landscape development modeling: Calibration using field study, geochronology and DEM analysis. *Geological Society of America Bulletin* v. 119, no. 1-2, p. 157-173, doi:10.1130/B25866.1
17. DeLong, S.B., Arnold, L., 2007, Dating alluvial deposits with optically-stimulated luminescence, AMS ^{14}C and cosmogenic techniques, western Transverse Ranges, California. *Quaternary Geochronology*, v. 2, no. 1-4, p. 129-136, doi:10.1016/j.quageo.2006.03.012
18. Pelletier, J.D., Cline, M.L., DeLong, S.B., 2007, Desert pavement dynamics: numerical modeling and field-based calibration. *Earth Surface Process and Landforms*, v. 90, no. 1-2, p. 1-10, doi:10.1016/j.geomorph.2007.01.018
19. Pelletier J. D., C. D. Harrington, J. W. Whitney, M. Cline, S. B. DeLong, G. Keating, K. T. Ebert, 2005, Geomorphic control of radionuclide diffusion in desert soils, *Geophys. Res. Lett.*, v. 32, L23401, doi:10.1029/2005GL024347
20. Pelletier, J.D., DeLong, S.B., Al-Suwaidi, A.H., Cline, M., Lewis, Y., Psillas, J.L., Yanites, B., 2006. Evolution of the Bonneville shoreline scarp in west-central Utah: Comparison of scarp-analysis methods and implications for the diffusion model of hillslope evolution. *Geomorphology* v. 74, no. 1-4, p. 257-270, doi:10.1016/j.geomorph.2005.008
21. Pelletier, J.D., and DeLong, S.B. 2004, Oscillations in arid alluvial-channel geometry, *Geology* v. 32, no. 8, p. 713-716, doi:1130/G20512.1

Abstracts

1. Avdievitch, N., DeLong, S.B., 2014, Integration of multitemporal and multisource data using point cloud based methods to quantify landscape change at the Mill Gulch earthflow, California. *AGU Fall Meeting, 2014*
2. DeLong, S.B., Pickering, A.J., Scharer, K.M., Hudnut, K., 2014, Afterslip-dominated surface rupture in the M6.0 South Napa Earthquake as constrained by structure-from-motion analysis and terrestrial laser scanning. *AGU Fall Meeting, 2014*

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3. DeLong, S.B., Hilley, G.E., Prentice, C.S., 2014 Variability of rock uplift rates in space and time along the Mendocino Coast, CA, as determined from channel profile analysis and catchment denudation rates *AGU Fall Meeting, 2014*
4. Ponti, D.J., Dawson, T.E., Schwartz, D.P., Brooks, B.A., DeLong, S.B., Hecker, S., Hudnut, K.W., Kelson, K.I., Lienkaemper, J.J., Prentice, C.S., Rosa, C.M., Rubin, R.S., Seitz, G.G., Sickler, R.R., Wesling, J.R., 2014, Surface Fault Rupture from the M6.0 South Napa Earthquake of Aug. 24, 2014. *AGU Fall Meeting, 2014*
5. Lienkaemper, J.J., Brooks, B.A., Domrose, C.J., Rosa, C.M., DeLong, S.B., 2014. Surface slip associated with the 2014 South Napa, California earthquake measured on alinement arrays. *AGU Fall Meeting, 2014*
6. Lienkaemper, J.J., DeLong, S.B., McPherson, R., Mielke, J., Avdievitch, N., Pickering, A.J., Lloyd, C. 2014. Characterizing Recent Slip on the Kuikui Fault, a Link Between the Green Valley and Bartlett Springs Fault Zones, Wilson Valley, Northern California. *AGU Fall Meeting, 2014*
7. Prentice, C.S., Clahan, K.B., Sickler, R.R., Salin, A. DeLong, S.B., Baldwin, J.N., 2014. Paleoseismic Studies of the Peninsula San Andreas Fault near Crystal Springs Reservoir, Woodside, California. *AGU Fall Meeting, 2014*.
8. Kuhn, T., Austin, L., Roche, J., Forrester, H., DeLong, S., Lever, R., 2014. Hillslope erosion and water quality in the Rim Fire, Sierra Nevada, CA. *AGU Fall Meeting, 2014*
9. Roozeboom, J.E., Spencer, J.Q.G., Prentice, C.S., DeLong, S.B., 2014. Correlation of marine terraces using pIRIR dating techniques to test Quaternary slip rates of the northern San Andreas Fault. *14th International Conference on Luminescence and Electron Spin Resonance Dating, Montreal, Quebec*.
10. Hopp, L., Troch, P.A., Pangle, L.A. DeLong, S.B., Huxman, T., James, A., 2014. Lessons learned from simulations of hillslope hydrologic response with a physics-based model. *AGU Chapman Conference on Catchment Spatial Organization and Complex Behavior, Luxembourg*.
11. DeLong, S.B., Prentice, C.P., Hilley, G.E. 2014, Rates and Patterns of Vertical Deformation Along the Northern San Andreas Fault. *2014 SSA Annual Meeting*
12. Kleber, E.J., Arrowsmith, J.R., Akciz, S.O., Salisbury, J.B., Grant Ludwig, L., Halford, D., DeLong, S.B., Henderson, W.M., 2014. 3D Investigation of Channel Morphology Across the San Andreas Fault Zone Using Structure From Motion and Terrestrial Laser Scanning. *2014 SSA Annual Meeting*
13. Prentice, C.S., Scharer, K., Gold, R., DeLong, S.B., Pena, L., 2014. New Paleoseismic Study of the Septentrional Fault, Dominican Republic. *2014 SSA Annual Meeting*
14. Brooks, B.A., Hudnut, K.W., Akciz, S.O., Delano, J., Glennie, C.L., Prentice, C.P., DeLong, S.B., 2013, On Offset Stream Measurements and Recent Coseismic Surface Rupture in the Carrizo Section of the San Andreas Fault. *2014 AGU Fall Meeting*
15. Prentice, C.S., Zachariasen, J.A., Kizaci, O., Clahan, K., Sickler, R.R., Rosa, C.M., Hasset, W., Feigelson, L., Haproff, P.J., DeLong, S.B., Perkins, A., Brooks, B.A., Delano, J., Baldwin, J.N., 2013. Paleoseismic Studies of the Peninsula San Andreas Fault near Crystal Springs Reservoir, Woodside, California. *2013 AGU Fall Meeting*

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16. Adams, J.M., Gasparini, N.M., DeLong, S.B., Youberg, A. 2013, Synthesizing Terrestrial LiDAR and Rainfall-Runoff Models to Explore Sediment Transport Controls in a Burned Watershed in Arizona, USA. *AGU Chapman Conference on Post Wildfire Runoff and Erosion Response*
17. DeLong, S.B., Youberg, A., 2013, Use of repeat terrestrial 3D laser scanning to create sediment budgets for post wildfire landscapes. *AGU Chapman Conference on Post Wildfire Runoff and Erosion Response*
18. Jemison, N.E., DeLong, S.B., Henderson, W.M., Adams, J., 2012, Evaluation of Arroyo Channel Restoration Efforts using Hydrological Modeling: Rancho San Bernardino, Sonora, MX., *AGU Fall Meeting, 2012*
19. Ferre, M.D., Pelletier, J.D., DeLong, S.B., 2012, Rainsplash Diffusion, Experimental Smoothing of Landscapes. *AGU Fall Meeting, 2012*
20. Henderson, W.M, DeLong, S.B., Evaluating dryland ecological and river restoration using repeat LiDAR and hydrological monitoring. *AGU Fall Meeting, 2012*
21. McLaughlin, R.J., Vazquez, J.A., Fleck, R.J., DeLong, S., Sarna-Wojcicki, A., Wan, E., Powell, C., Prentice, C.S., The Ash of Ohlson Ranch: A well-dated Stratigraphic Marker for Constraining Deformation Across the Northern San Andreas Fault. *AGU Fall Meeting, 2012*
22. DeLong, S.B, Prentice, C., Henderson, W.H., Murphy, B. Uplift and erosion of the North Coast Ranges, CA. *USGS invited talk 2012*.
23. Stephen B. DeLong, Peter Troch, Travis Huxman, Jon Pelletier, Greg Barron-Gafford, Katerina Dontsova, Ty Ferre, Guo-Yue Niu, Xubin Zeng, The Hills are Alive: Earth Surface Dynamics in the Biosphere 2 Landscape Evolution Observatory. *CUAHSI Biennial Workshop, 2012*.
24. Stephen B. DeLong, Peter Troch, Travis Huxman, Jon Pelletier, Greg Barron-Gafford, Katerina Dontsova, Ty Ferre, Guo-Yue Niu, Xubin Zeng, 2012, The Hills are Alive: Earth Surface Dynamics in the Biosphere 2 Landscape Evolution Observatory. *NSF Lower Atmosphere Observing Facilities Workshop*
25. DeLong, S.B., Henderson, W.M., Murphy, B.P., Yokelson, I.N. 2011, Quantifying Landscape Evolution From Terrestrial LiDAR and Environmental Process Monitoring. *AGU Annual Meeting, 2011*
26. Murphy, B.P., DeLong, S.D., 2011, High-resolution topographic change detection of an active earthflow using airborne and terrestrial LiDAR, Mill Gulch, California, *AGU Annual Meeting, 2011*
27. DeLong, S.B., Murphy, B.P., Henderson, W.H., Yokelson, I.N., Ferre, M. 2011. Storms, Floods and Fire: Changing dryland landscapes during the North American Monsoon. *Geological Society of America Annual Meeting, 2011*.
28. DeLong, S.B., Prentice, C.S., Hilley, G.E., 2010, Fault zone evolution and topographic change detection using LiDAR. *AGU Annual Meeting 2010*
29. Johnson, J.P, DeLong, S.B., Whipple, K.X., 2010, Monitoring the sensitivity of active gully erosion to individual runoff events and seasonal soil moisture changes *AGU annual meeting 2010*

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30. Hilley, G.E., Arrowsmith, J.R., DeLong, S.B., Le, K., Prentice, C., 2009, Morphologic Scarp Dating for the 21st Century. *AGU annual meeting 2009*
31. DeLong S.B., Rymer, M. 2009. Fault zone structure from topography: Signatures of en echelon subsidiary fault slip at Mustang Ridge on the creeping San Andreas Fault, Monterey County, California. *AGU annual meeting 2009*
32. Johnson, J.P., DeLong, S.B., Whipple, K.X., Malmon, D.; 2009. Quantification of coupling between erosion and hydrology in an intensely monitored "field laboratory" in southeastern Arizona, USA. *AGU annual meeting 2009*
33. DeLong, S.B., 2009, Fault zone structure from topography: Quantitative analysis of LiDAR data along the creeping San Andreas Fault, California. *SSA Annual meeting, April 2009*
34. Rood, D.H.; Prentice, C; DeLong, S.B.; Ritz, J. 2009, Dating offset alluvial fans along the San Andreas Fault in the Santa Cruz Mountains using LiDAR and Be-10 geochronology *SSA Annual meeting, April 2009*
35. DeLong, S.B., Johnson, J.P., Whipple, K.X., Post, D.F., Rossi, M.R., Malmon, D., Chu, D., Hellerstein, J., Klues, K., Levis, P., Martin, R., 2008, Hydrology and channel head erosion in a semiarid discontinuous ephemeral stream network; Page Ranch, Arizona. *AGU annual meeting, 2008*
36. DeLong, S.B., Pelletier, J.D. and Arnold, L., 2005, Bedrock landscape evolution modeling: Calibration using geochronology and DEM analysis. *AGU annual meeting, 2005*
37. Cline, M.L., DeLong, S.B., and Pelletier, J.D. Desert pavement evolution over dual timescales: Insights from field observation and modeling. *AGU annual meeting, 2005*
38. DeLong, S., Arnold, L., Pelletier, J., Stokes, S., 2005, Optically-stimulated luminescence dating of axial-fluvial and alluvial-fan sediments in southern California, USA with direct comparison to AMS ^{14}C and cosmogenic ^{10}Be results. *Presented at LED2005 conference 2005*.
39. DeLong, Stephen B., Pelletier, J.D., Arnold, L.J. 2005. Development of the Cuyama Badlands and late-Quaternary offset on the adjacent Big Pine Fault, Southern California. GSA Abstracts with Programs.
40. Cline, Michael L., DeLong, Stephen B., Pelletier, J.D., 2005. Desert pavement evolution over dual timescales: Modeling and field calibration. GSA Abstracts with Programs.
41. DeLong, Stephen B.; Pelletier, Jon D.; Arnold, Lee; Stokes, Stephen; 2004. Climatic influence on a tectonically-dominated landscape; western Transverse Ranges, CA – Insights from mapping, geochronology and modeling. GSA Abstracts with Programs.
42. Pelletier, Jon D. and DeLong, Stephen B. 2004. Signatures of climatically-driven hillslope evolution in river and alluvial-fan terraces in the southwestern U.S. GSA Abstracts with Programs.
43. DeLong, Stephen B. and Pelletier, J.D., 2003. Rates and Form of Fluvial-System Response to Climate Variability Over Decadal to Holocene Timescales - Cuyama Valley, California *AGU annual meeting 2003*
44. DeLong, S. B. and Mooers, H.D., 1997. Late Wisconsinan Ice Divide Shifts recorded in the Tills of Central Minnesota: Geological Society of America Abstracts with Programs Volume 29, Number 4.

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Geologic Maps:

- Orr, T.R., DeLong, S.B., Spencer, J.E., and Richard, S.R., 2002, Geologic map of the Fortified Peak 7.5' Quadrangle, southeastern Pinal County, Arizona: Tucson, Arizona Geological Survey Digital Geologic Map 18 (DGM-18), 1 CD-ROM with 1 Adobe PDF file (1 sheet, layout scale 1:24,000).
- DeLong, Stephen B. *unpublished*: Surficial geologic and compilation bedrock geological map of the Peak Mountain and southern ½ of the Caliente Peak USGS 7.5' quadrangles, California. Scale 1:24,000
- DeLong, Stephen B., Cline, Michael, L., Pelletier, Jon D. *unpublished*: Soil-Geomorphic Map of Fortymile Wash Alluvial Fan, Amargosa Valley, Nye County, NV. Scale 1:15,000.

Awards, Research Grants and Cooperative Agreements

National Park Service: Interagency Agreement to perform geomorphological study of the Rim Fire, Yosemite National Park. 2014

National Science Foundation – Collaborative Research: REU Site: Integrative approach to landscape evolution in a monogenetic volcanic field. San Francisco volcanic field, northern Arizona. 2013-2014 \$40k. Award transferred to ASU following my departure from UA.

USDA Forest Service Cooperative Agreement – Quantifying post fire landscape response. 2012-2013
\$10k

Biophilia Foundation and Cuenca Los Ojos Foundation– Monitoring geomorphic effects of fluvial system restoration, Rancho San Bernardino, Sonora, MX, 2011-2013, \$18k.

AZ-TRIF Water Environment and Energy Solutions (WEES) Equipment Grant, Hawkeye Unmanned Aerial Vehicle (UAV RQ-84Z), \$50k

UA Water Sustainability Program and Biosphere 2 Institute – 2012 Southwest Wildfire Hydrology and Hazards Workshop, 2012, \$10k

UA Water Sustainability Program – Improving Public Understanding of the Impact of Climate Change on the Terrestrial Water Cycle and Arizona's Water Resources, 2011, \$40k

Wesley Peirce Scholarship (UA Geosciences) – 2005

Bert Butler Scholarship (UA Geosciences) – 2005

Keith Katzer Scholarship (UA Geosciences) – 2005

Chevron-Texaco Graduate Research Scholarship – 2002, 2003, 2004

USGS EDMAP Grant (PI - J. Pelletier) – 2003

Arizona Geological Society Courtright Scholarship – 2003

University of Arizona Geosciences Geodaze Award – Best Quaternary/Geomorphology Talk - 2003

National Science Foundation Graduate Fellowship Award – Honorable Mention – 2002 and 2003

Wesley Peirce Scholarship (UA Geosciences) – 2002

Geological Society of America Graduate Research Grant – 2002

University of Arizona Graduate College Fellowship – 2001, 2002

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Invited Talks

- UNAVCO - 2013
American Geophysical Union Annual Meeting – 2012
US Geological Survey Earthquake Science Center – 2012
Several public outreach talks around Tucson, AZ – 2010-2012
Tulane University – 2012
Northern Arizona University – 2010
University of Arizona, Tucson – 2009
University of California, Santa Cruz – 2009
United States Geological Survey Earthquake Hazards Seminar, Menlo Park, CA – 2009
Seismological Society of America Meetine, Monterey, CA – 2009
Michigan Technological University, Houghton, MI – 2007
Cornell College, Mount Vernon IA – 2006
Saint Thomas University, Saint Paul, MN – 2005

Field Experience

- Dominican Republic:* Paleoseismology of the Septentrional Fault
- California:* Extensive geomorphologic, geologic and paleoseismological fieldwork. Faults, landslides, rivers, wildfires, stratigraphy, etc. Rapid response to south Napa earthquake
- Arizona, California, Mexico:* Use of terrestrial laser scanner (LiDAR) and environmental sensor networks for surface process monitoring and topographic change detection
- Coast Ranges, N. California:* Erosion rate and tectonic uplift history
- Sanborn Park, Santa Clara County, CA:* San Andreas Fault slip-rate determination
- Page Ranch Experimental Range, S. Arizona:* Topographic change and hydrological monitoring
- Fortified Peak, Cienega Creek, S. Arizona:* Surficial geologic mapping, soils description, arroyo study
- Greater Cuyama Valley region, S. Coast Ranges California:* Surficial geologic mapping, cosmogenic surface exposure dating sampling, radiocarbon sampling, luminescence dating sampling, fault-slip history analysis, detailed stratigraphy.
- Fortymile Wash alluvial fan, Mojave Desert, CA/NV, USA:* Surficial geologic mapping, desert surface development analyses, soils description
- Sunset Volcanic Field, N. Arizona:* Analysis of geomorphic fate of airfall tephra, morphologic analyses of slopes and cinder cones
- Tule Valley, Utah:* Slope-profile surveys, descriptive surficial analyses
- Utah, Arizona:* Terrestrial LiDAR data acquisition in badlands, amphitheater valleys, bedrock channels

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Iowa and Minnesota: Use of surficial, bedrock, and glacial geology for teaching mapping, stratigraphy, sedimentology, hydrology and geomorphology.

Service

Working group member: USGS Powell Center Working Group on High-resolution Topography 2013-present

Convenor: 2012 Southwest Wildfire Hydrology and Hazards Workshop

Advisory Board Member: NSF OpenTopography.org 2010-present

Advisory Board Member (non-voting): NSF National Center for Airborne Laser Mapping

Technical Session Chair: AGU 2010: "Quantifying Event-scale Landscape Change"

Outreach: Science Foundation Arizona STEM, Arizona Hydrological Society, Tumamoc Hill, Sun City Vistoso, Water Resources Research Center

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References:

Carol Prentice, USGS, cprentice@usgs.gov

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Kelin Whipple, ASU, kxw@asu.edu

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